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IN-HOUSE VS. CONTRACTED WORK FORCES: A COMPARISON OF NPWC PENSACOLA AND NPWC JACKSONVILLE

BY

DONALD B. CAMPBELL JR.

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ABSTRACT

The purpose of this paper was to conduct an in-depth analysis of total cost, quality, and response times using in-house (government civil service) or contracted (private) work forces to complete facilities maintenance work and recommend the best method of performance of these functions at a Navy Public Works Center.

Actual work force structure, total cost, quality and response time data was analyzed for Navy Public Works Center Pensacola, which uses in-house work forces, and Navy Public Works Center Jacksonville, which uses contracted work forces, to determine the value received by their customers. The data was analyzed on a macro-level to compare total revenue to direct and direct plus overhead personnel to determine the amount of direct work produced per employee at both locations. A more in-depth analysis was then conducted on the types of maintenance work the Public Works Centers provide, Emergency/ Service work, Recurring work, and Minor/ Specific work orders, to determine which location provides the best value to their customers.

The results of the analysis showed that for all types of maintenance work in-house work forces provided comparable if not better value to their customers than contracted work forces. This service was delivered with roughly the same response time and usually at the same or lower cost. Additionally, because of the projected rate increases at PWC Jacksonville the value PWC Pensacola's customers receive will be even greater for the next several years.

It was concluded from these results that in-house work forces with the flexibility to augment their work with contracted personnel are the best method of providing Navy Public Works Center's maintenance functions.

PROBLEM STATEMENT

Do in-house (government civil service) or contracted (private) work forces provide better value to the Navy in completing facilities maintenance functions at Navy Public Works Centers?

OBJECTIVE

The objective of this analysis is to determine the best method of accomplishment of maintenance type public works functions at Navy Public Works Centers. An in-depth analysis of work force size and make up, direct vs. overhead personnel, maintenance revenue, response times and customer satisfaction will be completed to determine if in-house or contracted work forces provide the best value to Navy Public Works Center customers.

LITERATURE SEARCH

Research for information related to this analysis was conducted in several areas. An extensive library search was conducted for periodicals and books pertaining to public works operations, and outsourcing or privatizing these operations. The Naval Facilities Engineering Command was contacted for information pertaining to Navy Public Works Center history and development and for information about the Defense Management Review Decision 967 and the Navy' Commercial Activities Program. Navy Public Works Centers Pensacola and Jacksonville were contacted for information pertaining to their command history and for data covering maintenance work completion at both locations. Finally, an Internet search was conducted for information pertaining to

public works and public works outsourcing and privatizing. All of the above information sources are listed in the bibliography and additional references located at the end of this paper.

CHAPTER 1
INTRODUCTION

1.1 Purpose

The purpose of this report is to make an in-depth analysis of total cost, quality and response times when using in-house (government civil service) work forces or contracted (private) work forces. This comparison was accomplished by analyzing data provided by two Navy Public Works Centers (PWC). PWC Pensacola, Fl. completed its maintenance workload with a majority of in-house work forces while PWC Jacksonville, Fl. used a totally contracted work force to complete its workload.

1.2 Definitions

The following terms are defined as to their use in this report. These are not the only possible definitions of these terms, but are the most appropriate for explaining their use in this report.

> Public Works - the application of scientific, economic, and management principles to the solution of physical, service, and system problems to implement community plans, meet community goals, and achieve optimum costs of construction, operation, and maintenance. [1, p. 3]

> In-house work forces - employees that are hired by the organization for which the maintenance work is to be completed. Payroll, fringe benefits, retirement, etc. are the responsibility of the organization by which the work is being completed, i.e. overhead is the organizations responsibility.

> Contracted work forces - employees that are hired by an outside provider to do maintenance work for another organization. Payroll, fringe benefits, retirement, etc. are the responsibility of the outside provider. In this case overhead is the outside providers responsibility.

Outsourcing - is when the government retains a private sector provider to perform work, with the ownership of the asset or function remaining with the government. [2, p. 3]

Privatization - refers to the government divesting itself of the management and sometimes the ownership of an asset or function. [2, p. 3]

Fixed price/ award fee contract - a contract that identifies specific line items of work for accomplishment that the contractor will bid a fixed price to complete. The award fee is an incentive built into the contract that the contractor receives if they meet the criteria for its award. These criteria may be quality of workmanship, customer satisfaction, percent completion on time or a mixture of these items. The contract may also include indefinite quantity work with the government and contractor negotiating the scope and cost of the work when the need arises.

These terms are used frequently through out this report. Other less frequently used terms will be defined when they appear in the report.

1.3 Brief Overview

This report has been structured to provide the background of in-house and contracted work force accomplishment of public works functions, the current conditions in the work forces at PWC Pensacola and PWC Jacksonville, a comparison of their work output and a summary of the results of that comparison.

The background, Chapters 2-5, includes a history of Navy Public Works Centers, a description of how they do business and a description of the different types of maintenance work. It also includes a summarization of the Department of Defense's Defense Management Review Decision 967, the consolidation of existing PWC's and the creation of new ones, the United States Navy's Commercial Activities Program, A-76, outsourcing and privatizing, and a discussion on in-house and contracted work forces.

The current conditions at the Navy Public Works Centers, Chapter 6-7, includes a discussion of the public works functions they are involved with, the size of the commands, the structure of the types of work they do, and the methods they use for completing their maintenance workload.

The comparison of their work output, Chapter 8, includes an apples-to-apples analysis of cost and responsiveness of the work forces, the number of employees required to complete various items of work, and a cost comparison of what $1000.00 would buy a customer in each location.

The results, recommendations and conclusions, Chapter 9, discusses the results of the in-depth analysis, the best method of completing different types of work, factors to consider when establishing the workforce, and recommendations to make both methods better.

1.4 Desired Result

The desired result of this report is to provide a comprehensive analysis of in-house and contracted work forces and to demonstrate the advantages and disadvantages to completing maintenance work using these methods. This report will also provide possible improvements to both methods of completing maintenance work.

CHAPTER 2
NAVY PUBLIC WORKS CENTER HISTORY

2.1 Brief History

At the end of World War II all of the new construction and equipment at U.S. Navy bases world-wide, together with pre-war facilities and hardware comprised a plant property value of almost $6.5 billion. This was vastly increased when compared to the pre-war figures of plant property value of just over $0.5 billion. Because of this large and diverse infrastructure the Navy had to develop a method to deliver public works services cost effectively. " With the war's end came the need to economize in the cost of operating and maintaining the Navy's vast Shore Establishment. One means of accomplishing this goal was obvious: consolidate public works functions being performed by individual commands within a complex of activities. Whereas individual activities at a Naval Operating Base had independent public works forces, each with its individual staff of officers and men, a Public Works Center today usually is staffed by a single force of Civil Engineer Corps officers [and an appropriately sized civilian work force, depending on the area of responsibility and the method of work completion], responsible to a Commanding Officer who is a Civil Engineer Corps officer." [3, p.2-3]

Believing that this was the proper concept to provide savings in its public works operations the Navy established the first Navy Public Works Center in Norfolk, Va. on 15 June 1948. This concept was part of the general objective to perform all support tasks more efficiently so that maximum emphasis in Navy funding could be placed on weapons systems.

Public Works Center Norfolk incorporated the consolidation of the public works departments at Naval Station Norfolk, Naval Air Station Norfolk, Naval Supply Center, Commander in Chief, U.S. Atlantic Fleet compound and the Armed Forces Staff College into one regional Public Works Center. This Public Works Center provided the maintenance of buildings, structures, and vehicles, trash collection, crane services, and grounds maintenance, plus the maintenance and operation of utilities for the shore establishment. These functions were provided to activities occupying an area in excess of 3,500 acres and approximately 2,300 buildings. As stated by Rear Admiral E.J. Peltier, CEC, USN, Chief of the Bureau of Yards and Docks:

> Besides reducing duplication in public works organizations, Admiral Peltier explained, consolidation of public works functions will permit more effective use of overhead-type personnel and allow reduction in the number of supervisors while providing opportunity for selecting the higher caliber supervision made possible in a larger, single organization. Further, the consolidation of public works will make possible better utilization of equipment, reduction in the number of shops and shop equipment, improved maintenance planning, uniform criteria and better scheduling of work, and enable the use of labor-saving devices and specialized equipment not possible in a small organization. [4, p.2]

The success of the Navy Public Works Center concept can be seen today by the fact that the Navy has established ten of them world-wide, seven in the continental United States and three overseas. Evaluation of Navy Public Works Center Norfolk by the Navy Comptroller and the Chief of Naval Operations, in1962, revealed that:

> A special audit of cost aspects of the Norfolk consolidation was conducted by the Area Audit Office, Norfolk. The reduction in personnel, equipment, and facilities made possible just by consolidation of public works functions of the Naval Air Station and Naval Supply Center into the Public Works Center, reported the auditors, had produced savings which were estimated to be nearly $820,000 annually. [This was just the savings from two of the major commands. This consolidation incorporated over eight major commands.] [5, p.14]

and that:

> The findings of the on-site team clearly established that the significant annual savings reflected in the audit report had not been achieved through the diminution of any services; consequently, such savings were considered valid. In fact, there appeared to be an enhancement of service and support, both in effectiveness and quality, after consolidation. .... It is concluded that the consolidation of all public works type functions in the Norfolk (Sewell's-Point) complex under the Public Works Center has been quite successful, and has further demonstrated the soundness of the consolidation concept. [5, p.14]

In fact, the early success of the Navy Public Works Centers led to a Department of Defense Management Review Decision in 1990, DMRD 967, that further consolidated public works functions and gave the Navy the ten Public Works Centers in existence today. DMRD 967 is discussed in more depth in Chapter 3.

2.2 Public Works Center Concept

Public Works Centers are fully costed public works organizations that rely upon the Defense Base Operating Fund (DBOF) for financing their operations. "This procedure is comparable to commercial financing and accounting procedures enabling the exact determination of all real costs."[4, p.3] The Public Works Center draws upon its cash reserves to perform services, and then bills its customers for those services. Payments from the customer are returned to the fund. This revolving fund allows accurate identification of specific funding outlays for all public works functions so that tracking of expenditures and identifying overruns and waste are easier.

Fully costed services are described as the true cost of doing business. Public Works Centers establish rates for their services that include all of the costs of doing business. When a customer purchases a labor hour of service it includes the worker's

salary, fringe benefits, retirement, an apportioned amount of overhead salaries and fringes, the cost of material procurement, utilities for his workspaces , and possibly a part of the capital costs for his new work shops. Therefore, a Public Works Center customer pays for the true cost of the services he is receiving. Public Works Center's were developed to operate on a break even basis, not making a profit or incurring a loss, therefore, if they lose money one year they must adjust their rates to recoup that loss in follow on years. This concept is completely different from the approach taken in most city, county and state public works organizations. In these organizations the government pays the salary of the workers separately and the customer receiving the service does not see the true cost. Public Works Centers must be competitive and strive to be the provider of choice for their customers.

> Probably the most interesting aspect of a PWC is its financial control and management system. Because the only continuing source of funds is reimbursement for its services, proper business planning and budgeting are just as important as with any firm in the private sector. ... As with any service organization in private industry, the primary goal and objective is satisfactory service to the customer. This is the key measure of a PWC's effectiveness and is necessary for its continued existence. [6, p. 2-10]

2.3 Types of Work

Navy Public Works Centers perform a myriad of public works functions. The basis of the comparison in this report will be the accomplishment of maintenance type work. The Navy separates maintenance type work into four categories: Emergency/ Service Calls, Recurring Work (preventative maintenance), Minor Work Authorizations, and Specific Work Orders. A description of these types of work is

provided below. All of the other various functions provided by PWC Pensacola and PWC Jacksonville will be discussed in more depth in Chapters 6 and 7.

Emergency/ Service call work is usually work of a short duration that requires only a limited number of trades to complete. Emergency calls are used to prevent loss or damage to government property, to restore essential services and to eliminate safety/ environmental hazards to personnel. An emergency call is only used to eliminate the actual emergency condition. A service call is used to complete a minor repair or provide a limited service and usually requires 16 man-hours or less to complete.

Recurring work (preventative maintenance) is work which is ongoing, repetitive, and cyclical in nature. Examples include grounds maintenance, janitorial services, HVAC and elevator maintenance, etc. Most Public Works Centers provide contracts or in-house Maintenance Service Agreements to complete this work.

Minor Works Authorizations or Minor works are jobs that are estimated to require up to 200 man-hours or $10,000 to complete. Minor works will normally require multiple trades to complete the work. Due to the increased complexity of the job effort, a job plan is prepared to estimate the labor and materials required to complete the work. The customer will then be required to approve the scope and cost of the job plan.

Specific Work Orders or Specific works are large, multi-trade, one-time work efforts which are over the limitation of man-hours for a Minor work. These jobs may require several hundred to several thousand man-hours to complete and can range from tens of thousands to over a million dollars to complete. Extensive planning and

estimating is conducted to ensure that these jobs are completed promptly and cost effectively. The customer is required to approve the cost and scope of these jobs.

CHAPTER 3
DEFENSE MANAGEMENT REVIEW DECISION 967

3.1 What is DMRD 967

Defense Management Review Decision (DMRD) 967 was the result of an extensive infrastructure maintenance study conducted by the Department of Defense (DoD) and approved in December 1990. It was conducted to determine if cost reductions and improved efficiencies could be achieved through consolidations of base engineering services, reductions of excess personnel, economies of scale, and reorientation of the base engineering financial and management programs to establish a business management approach to real property maintenance.

> The DoD infrastructure [in 1990] has an estimated plant replacement value of over $600 billion. The primary planning, management, and maintenance support for this infrastructure occurs at the installation level and is performed by the Director of Engineering and Housing organizations in the Army, Public Works Centers (PWC's) or Public Works Departments in the Navy, or Civil Engineering Support Squadrons in the Air Force. This base civil engineering function provides a range of services for the host installation and all tenants including: providing utilities, either in-house or contracted engineering services (such as custodial, snow removal, grounds maintenance, refuse removal), a mixture of contract and in-house services for all maintenance, repair, and minor construction for all buildings, structures, family housing, and other facilities, operation of in-house utility plants, and installation master planning and environmental support services. These programs are funded at approximately $5.7 billion annually (excluding military pay), and are executed by over 65,000 personnel. [7, p.2]

The challenge that was being faced was to provide these services for a rapidly aging infrastructure which to a large extent was developed in the World War II and Korean War periods.

The Department of Defense extensively reviewed the provision of these public works functions by all of the services and determined that the Navy PWC concept met these challenges best. They felt that "Navy support for the infrastructure is paid for by surcharges built directly into the [Navy] industrial fund rates [name of the revolving fund before DBOF] the PWC charges customers. Also, major Navy tenant commands own their facilities and purchase the services they need. This combination of ownership, and control of priorities and resources stimulates better real property management and greater understanding in the Navy." [7, p.3]

In concluding their review, DoD determined that "savings and increased efficiencies are possible through consolidation of these programs and by reorientation of these programs toward a business management basis for operations. Such consolidation will eliminate duplicative management and support staffs and allow for economies of scale in both procurement of supplies and in contracting services. Other areas where economies will be achieved include design services, master planning, laboratory services, hazardous waste and asbestos removal and disposal, heavy equipment pool sharing, maintenance of equipment and vehicles, and other areas." [7, p.5] Therefore, DoD directed all of the services to establish industrially funded Public Works Centers, in approximately 39 locations, and to expand the area of coverage of 7 of the Navy's existing PWC's.

The advantages of this system were the reduction in duplicated overhead, reduction in the size of heavy equipment and shop equipment pools, a large, coordinated work force that can respond to regional commitments and the savings to be realized from economy of scale. Listed disadvantages included the loss of direct

activity Commanding Officer control of his public works forces and the possibility that too large of a PWC could become lethargic and non-responsive. Navy commanding officers stated that they did not like the idea of the loss of direct control of their public works forces, but that a larger more responsive system was what they really needed and they were willing to make the sacrifice for the projected savings. Additionally, they could rely on the PWC Commanding Officer for management advice and intervention for priority work if necessary.

3.2 DMRD 967 Savings

The Navy has embraced the system wholly and has expanded the area of coverage of 7 of its 8 original PWC's and created 2 new PWC's for a current total of 10 PWC's. The Army and Air Force have been slower to embrace the process. The projected DoD savings from the entire program, for all services, was projected to be between $100-120 million per year. Table 3-1 on the next page displays these projected savings by service. Because of the lag in adopting the process by the Army and Air Force these total savings are not being realized. However, it is estimated that the Navy is still realizing savings of approximately $60 million per year.

Table 3-1: Summary of Adjustments Program Consolidations and Establishment of PWC's						
Service	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
		($ in Millions)				
Army O&M	-25.5	-52.9	-54.7	-56.4	-58.2	-60.0
Navy O&M	-25.5	-52.9	-54.7	-56.4	-58.2	-60.0
Air Force O&M	-11.8	-2.6	+1.5	+1.9	+6.0*	-1.3
DLA O&M**	+1.0	+2.1	+2.2	+2.3	+2.4	+2.5
TOTAL DMRD	-61.8	-106.3	-105.7	-108.6	-108.0	-118.8

[7, p.13,14]

*Air Force costs become positive costs do to loss in uniformed personnel. Extensive savings in Air Force manpower account resulted.

** DLA is the Defense Logistics Agency, an agency under the Department of Defense.

CHAPTER 4
NAVY COMMERCIAL ACTIVITIES PROGRAM

4.1 What is the Navy Commercial Activities Program?

Some base maintenance and operations activities performed by government employees are similar to those performed in the private sector and it is government policy, in the Navy through the commercial activities program, that private sector contractors be able to compete with government in-house organizations for the work. The goal is to use competition to encourage efficiency whether the activity is performed in-house or contracted out. "Just as with the use of permanent replacements in a strike, the Reagan Administration sent a powerful signal to the business community when it launched a direct government assault on the principle of full-time permanent employment in the form of Circular No. A-76 [the force behind the creation of the Navy's Commercial Activities Program] in August 1983. This circular ordered all federal agencies to increase their reliance on businesses for commercially available services, unless the agency could demonstrate that it could provide the services more economically. As a consequence of A-76, services such as food preparation, building maintenance, warehousing, and data processing were subcontracted at an increasing rate. The commercial suppliers were proven to be far more likely [and able] than the government to employ part-time or temporary labor." [8, p.4] The Office of Management and Budget (OMB) Circular No. A-76, the federal guidance on performance of commercial activities, was first issued in 1976.

Today the Department of Defense must meet three major challenges: Maintaining Readiness, Quality of Life, and Modernization with reduced funding.

These challenges can be met by freeing up the additional resources required for modernization in the future by managing its internal operations and particularly its support activities more efficiently. DoD has begun " a systematic review of its support operations to determine where competitive forces can improve overall performance at lower cost. Outsourcing, privatization, and business reengineering offer significant opportunities to generate much of the savings necessary for modernization and readiness." [9, p.3]

DoD currently outsources approximately 25 percent of base commercial activities, including facilities maintenance, food services, housekeeping, grounds maintenance, laundry services, local transportation and vehicle maintenance. The commercial activities program continues to offer the prospect of lowering costs and improving performance across a wide range of support activities. However, such activities will only be considered for outsourcing or privatization if they meet three conditions:

> First, private sector firms must be able to perform the activity and meet our warfighting mission. DoD will not consider outsourcing activities which constitute core capabilities.
>
> Second, a competitive commercial market must exist for the activity. Market forces drive organizations to improve quality, increase efficiency, and reduce costs. DoD will gain from outsourcing and competition when there is an incentive for continuous service improvement.
>
> Third, outsourcing the activity must result in best value for the government and therefore the U.S. taxpayer. Activities will be considered for outsourcing only when the private sector can improve performance or lower costs in the context of long term competition.
>
> [9, p.4]

Under the commercial activities program areas of possible competition are identified and the government organization performing the service develops its Most Efficient Organization (MEO). The organization then prepares a full costed bid to provide the service with its MEO and that bid is compared to competitively advertised private sector contractors' bids. The low bidder becomes the provider of the service. If the low bidder is a private sector provider, his bid must be 10 percent below the bid of the government MEO to win the competition. If a private sector provider wins the bid the government workers currently performing this function will have "right of first refusal" for any positions the private firm will be filling to perform the functions they won.

4.2 Savings from Commercial Activities Programs

From 1978 to 1994 more than 2000 commercial activity competitions were completed. Of these competitions approximately 50 percent were kept by in-house forces. Throughout DoD these competitions have resulted in savings of approximately $1.5 billion per year. Savings by service are shown in Table 4-1 on the next page. Monitoring of these savings has revealed that continued competition ensures that the savings continue to remain constant and do not decrease in the follow on years. To date, the Navy has "achieved substantial savings - averaging 29 percent - from the functions studied. Savings were: almost 40 percent when functions were contracted out and almost 20 percent when functions remained in-house." [10, p.1]

Table 4-1: Savings from A-76 Competitions, 1978 to 1994			
Service	Competitions Completed	Total Annual Savings*	Percent Savings
Army	510	470	27%
Air Force	733	560	36%
Marine Corps	39	23	34%
Navy	806	411	30%
Defense Agencies	50	13	28%
Total	2,138	$1,478	31%

* Savings are in millions of FY-96 dollars.

[2, p.7]

These savings were generated by A-76 competitions for 29,000 civilian and military billets. There are currently 250,000 billets that have been exempted from study. These billets are currently exempted by Congress to preserve Sea-Shore rotation for military personnel and to ensure that a government industrial base is maintained for certain functions. A summary of the savings realized from maintenance type activities studied under the Navy's commercial activities program is displayed in Table 4-2 on the next page. These numbers show an annual savings of $6.8 million for custodial services, $2.0 million for grounds maintenance, $15.2 million for buildings/structures, $3.1 million for motor vehicle operations and $0.07 million for pest management. This provides a $27.2 million savings from maintenance type activities. The Navy studied 72 other functions which provided the other $384 million in savings.

Table 4-2: Proportion of studies contracted out and average savings by type of function (excerpt from Table 2. [10, p.11])

Function	Number of Studies	Contracted (percent)	Savings per Study (percent)	Average annual savings ($ thousands)*
Custodial Services	97	88	44	79
Grounds/surfaced areas	28	57	27	124
Buildings/structures (non-family housing)	43	37	24	957
Motor vehicle operations	44	25	22	281
Pest management	32	13	13	17

* Average annual savings are per study conducted.

4.3 Advantages/Disadvantages of the Commercial Activities Program

There are advantages and disadvantages to implementing any commercial activity program. These advantages and disadvantages need to be carefully considered before the decision is made to enter into a commercial activity study.

The advantages of the commercial activities program include:

-Competitive forces. Competition forces organizations to improve quality, increase efficiency, reduce costs, and better focus on their customer's needs over time.

-Flexibility. Outsourcing provides managers with flexibility to determine the appropriate size and composition of the resources needed to complete tasks over time as the situation changes.

-Economies of scale specialization. Firms that specialize in specific services generate a relatively large business volume, which allows them to take advantage of economies of scale. ... Outsourcing to such firms provides a means for the government to take advantage of technologies and systems that the government itself does not acquire or operate. [9, p.5]

Other advantages include; the ability of contractors to hire and fire employees more easily and to make easier use of temporary or part-time employees, the fact that contractors may be able to work more efficiently because they do not have to follow government work rules or worry about unions, and the advantage that contractors have in being able to purchase materials directly and not having to fight through the Navy or General Services Administration supply system to receive their materials. The last and possibly paramount advantage is that the DoD has stated that the services "will not have their out year budgets reduced as a result of the savings they create through their initiatives, and that these savings should benefit modernization." [9, p.5] This benefit overrides other considerations when considering "to study or not to study".

Disadvantages involved with the process include; first, the length of time to develop the MEO and complete the competitive process is sometimes in excess of 2 to 4 years. Second, "the cost of conducting the average study was about 11 percent of the annual cost of performing the function." [10, p.14] Third, when the function is outsourced the government agency loses direct control of the work force completing a portion of its workload. Fourth, "activities always had the option to bring the work back in-house after it had been contracted out, which provided another source for competition. However, the base administrators we spoke with thought it would be extremely difficult to bring work back in-house once it had been contracted out." [10, p.24] And finally, in 1992 the U.S. Congress placed a moratorium on competitions. When the moratorium was lifted the Air Force was the only service to reintroduce competitions. Therefore, the resistance of Army and Navy facilities staff to the

commercial activities process must be overcome before the program becomes a viable cost savings system again.

4.4 Activities to Study to Restart the Commercial Activities Program

A review of the results of earlier studies indicated several activities that may still yield great savings. First, commercial activities that are largely performed by military personnel are excellent candidates for further studies. Having personnel that do not have to devote time to uniquely military duties and deliberate turnover policies will ensure a stable work force with the maximum number of productive labor hours available. Second, commercial activities that are commonly performed in the private sector would lend themselves to greater competition and greater cost savings. Last, as can be seen in Table 4-3 the larger the competition the bigger the savings that result from the study.

Table 4.3 Larger Competitions Seem To Provide Bigger Savings

Number of Billets	Competitions	Percent Savings
1 to 10	857	22%
11 to 30	728	28%
31 to 50	212	31%
51 to 75	115	27%
76 to 100	67	32%
101 to 200	88	29%
over 201	71	35%
Total	2138	31%

[11, p.6]

Therefore, studying large functions results in larger savings so the services should actively pursue completion of these studies.

CHAPTER 5
IN-HOUSE vs. CONTRACTED WORK FORCES

5.1 What are In-house Work Forces?

"Local and municipal government officials are continually confronted with diverse issues associated with the operation and maintenance of their facilities, ... The issues involved with facility operation and maintenance cover a broad spectrum ranging from resolving the most economical method for repairing a leaking roof, to investigating expansion potentials, to resolving water and waste water problems that arise during normal operations." [12, p.50] In all cases the accomplishment of these different types of work requires in-house or contracted work forces. In-house work forces are made up of employees that are working directly for the agency or company that requires the work to be completed. Because they are employed by the organization requiring the work, the total cost of these employees is carried by the organization (i.e. wages, fringes, annual, sick and holiday leave, etc.).

Typically, most local, state and federal government agencies have public works organizations that help maintain and repair their infrastructure. In many organizations public works functions are performed completely by in-house work forces. The advantages to having in-house work forces include: direct managerial control of the forces completing the work, employees that are committed to the common goal of the organization (i.e. part of the family), having a long term stable work force that can track the history of a problem and correct it, and that work can always go to small maintenance/ repair contracts to shave a peak work load, if required, and still maintain the control of the majority of the operation. "In the field of public works, the greatest

asset a manager has is the department's personnel. The staff can, and often does, perform minor miracles and makes the manager and the department look good. Motivation and productivity are the key to any successful organization." [13, p.62,63] Once the decision is made to go to an all contracted work force, very rarely can the organization "afford" to reestablish in-house work forces.

Some of the disadvantages encountered in maintaining an in-house work force include: the responsibility for complete wages and benefits of an employee, having to deal with personnel problems (this can be especially difficult in the Federal Civil Service system), maintaining productivity, may require a large work force that is hard to resize quickly, it is hard to restructure to meet new commitments, material procurement (especially in the federal government) to support the maintenance and repair efforts is time consuming and inefficient, and depending on the work force's size it can become very resistive to change.

Most managers would normally voice the inclination of having in-house work forces to complete their work. However, "if the cost to deliver a specific service cannot be cost competitive or justified, it should not be performed. [in-house]" [14, p.51]

5.2 What are Contracted work forces?

Contracted work forces are the forces hired to complete work for another organization by a company that was contracted to provide the service. Contracted work forces are brought into the system by the outsourcing or privatization of some or all of the public works functions. "The term *privatization* has been used loosely for any public project that might involve the private sector. Proponents present privatization as

a method for improving government services while reducing costs to taxpayers." [15, p.8] "Often overlooked is that many times the people who make the most noise about privatization are frequently those who have a vested interest in the industry being touted as performing better than the public performance of a service." [16, p.38] Contracted work forces are perceived as being able to complete comparable work cheaper than in-house forces for many reasons. Some of these reasons include:

- Economies-of-scale - the most obvious reason.
- Higher wage rates in private industry may attract a higher skill-level employee.
- Job type may be such that private industry can pay the minimum wage while most governments cannot.
- Task frequency may be such that a full-time employee is not justified and part-time help is not available.
- Government employee recruitment policies frequently make it difficult to replace employees in high turnover jobs in a timely manner.
- Government wage rates for certain skills may be so low that the government becomes a training ground for private industry - the employee then advances to private industry after becoming proficient in these skills.
- Competition for some skills may be so great that government has great difficulty in recruiting.
- Specialized equipment may not be justified or government budget restrictions preclude purchase.
- Employee advancement and promotion opportunities may be limited by budgetary constraints.

[16, p.32]

When considering contracted work forces several advantages become readily apparent. Some of the advantages they may present include: "may cost less, limit the

growth of government, avoid large, initial capital expenditures, permit greater flexibility in adjusting program size, provide a yardstick for comparison and produce better management." [1, p.18] "The operation and maintenance demands of public works departments can be streamlined by contract operations firms using modern, cost effective management techniques. This is especially true for smaller municipalities with limited financial and technical resources." [17, p.54]

The disadvantages of contracted work forces are sometimes not as apparent. First, "privatization will be effective only if private managers have incentives to act in the public interest ... ." [17, p.50] Second, "private sector managers may have no compunction about adopting profit-making strategies or corporate practices that make essential services unaffordable or unavailable to large segments of the population." [17, p.50] Third, " the longer the contract period, the less sensitive service delivery will become to citizen input." [18, p.67] Fourth, to be competitive with in-house service delivery, contracted work forces must maintain a strong competitive edge in employee motivation and limit profit-taking to a healthy minimum. Fifth, it can be very difficult to develop contract specifications which will ensure every contingency is met. And last, "the private sector can only be held accountable for the delivery of their services through our judicial system. The judicial system is not very sensitive to public input. Time is not a manageable item in the court system. Bankruptcy law can prevent ultimate restitution. Meanwhile, while the politicians [public works officers/directors] are held accountable, when privatized, they have no way of ensuring their ability to deliver public services." [18, p.68] Therefore, it is apparent that the many advantages

of contracted work forces may become quickly out weighed by the disadvantages if tight managerial control is not maintained.

5.3 Possible improvements in both systems

Careful consideration of all aspects of the work to be completed must be used when determining whether an organization will use in-house or contracted work forces or a combination of the two to complete its work. "The rationale is that private industry must be more efficient because it must make a profit to stay in business. But in some instances, the public works operating division may be just as efficient, plus it may offer the public a more customized, friendly service." [19, p.46] Possible improvements that would make in-house work forces more attractive include:

- Improved productivity
- Streamlined overhead and work force (cut the fat)
- Worker/Union agreements to improve worker availability
- Eased procurement rules to allow easier purchasing of required materials

Improvements that would make contracted work forces (i.e. outsourcing/privatization) more attractive would include:

- Improved contracting rules to allow more flexibility in changing contracts and awarding performance.
- Introduction of a system that will allow shorter evaluation of proposals and allow awarding to other than low bidder.
- Standard contract specifications which are easily modified for various uses.

5.4 Summary

It is important to realize that by controlling and reducing the facility maintenance budget, funds are made available for other areas. When deciding on in-house or contracted work forces "inefficient operation opens the door for privatization." [19, p.46] Contracted work forces can introduce many advantages "besides introducing private-sector efficiencies, infrastructure privatization would allow market pricing to conserve scarce resources." [20, p.24] However, when 26 city managers in California were interviewed and asked to state how a list of services should ideally be provided in a city like the one they manage, these city managers overwhelmingly favored in-house work forces (city departments). These results are shown in Table 5-1 on the next page.

Therefore, before a decision is made to determine the type of work force to be used it must always be remembered "in most public works departments, the manager's greatest assets are people and their ability to achieve the municipality's and the department's goals within the budget and within the time allotted." [13, p.63] If the service can be provided equally as well by either method, then cost (low bid or best value?) and quality of service should be the deciding factor.

Table 5-1 Preferred Service Structure [21, p.31]		
Specific services	Preferred Structure	Number of managers making choice
Zoning & subdivision	City department	25
Planning	City department	21
Tree planting & trimming	City department	21
Building & safety inspection	City department	20
Parks	City department	20
Recreation	City department	20
Engineering planning & mapping	City department	18
Traffic safety & patrol	City department	18
Street signs & markings	City department	17
General law enforcement patrol	City department	16
Water distribution	City department	16
Street cleaning & patching	City department	13
Sewer maintenance	City department	12
Sewer & storm drains	City department	12
Noise pollution abatement	City department	12
Street resurfacing	City department	12
Street lighting	City department	11
Business refuse collection	Private franchise	15
Traffic signal maintenance	Private contract	14
Residential refuse collection	Private franchise	14
Solid waste disposal	County contract	13
Animal control & shelter	County contract	12
Libraries	County contract	10
Ambulance services	Private contract	8
Public transportation	Special district	8
Water pollution abatement	Regional government	8
Fire protection	City dept. & contract	8

CHAPTER 6
OVERVIEW OF PUBLIC WORKS CENTER PENSACOLA

6.1 Scope of Operations

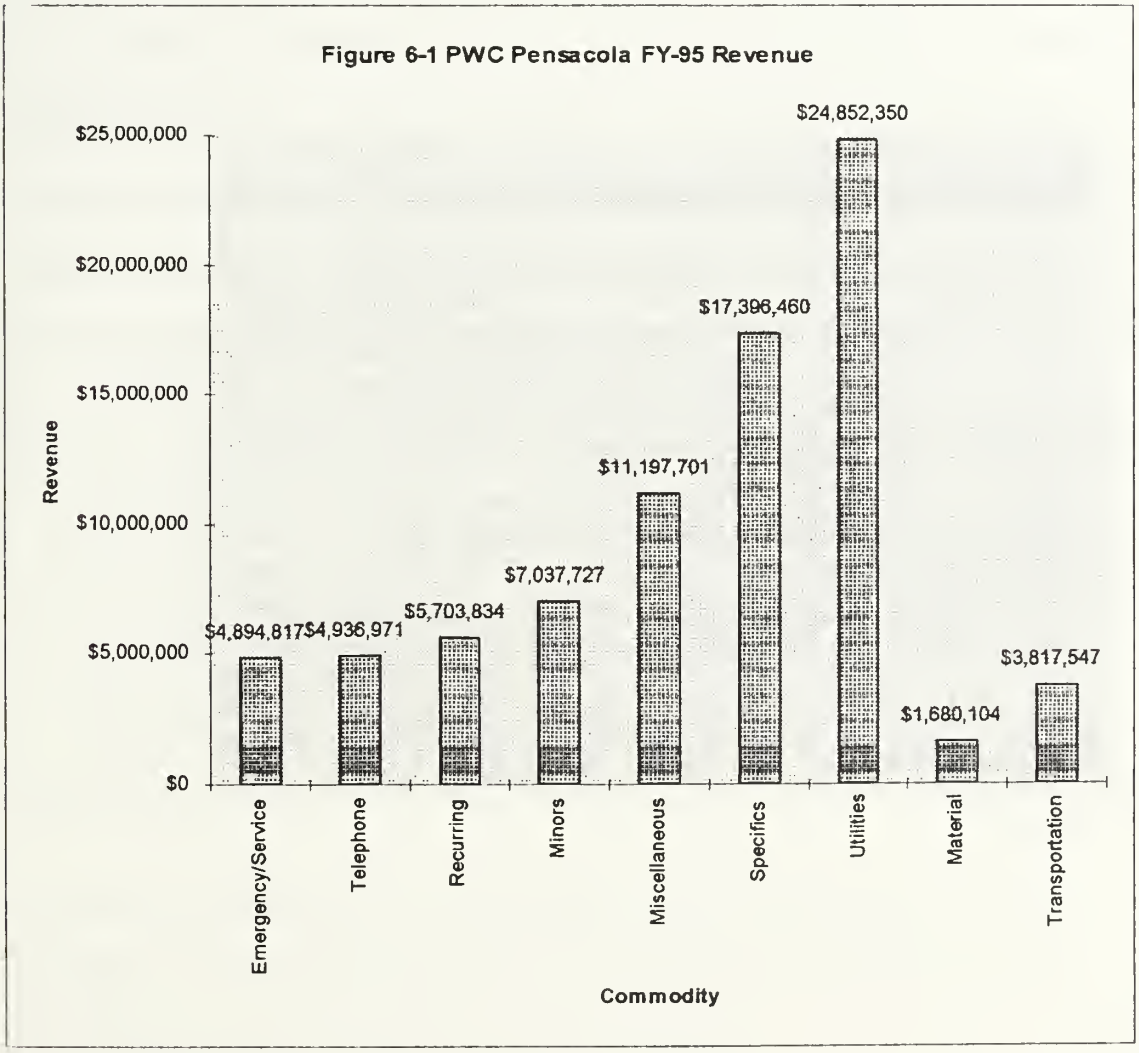
PWC Pensacola is located onboard Naval Air Station (NAS) Pensacola, Fl. and "is the region's 7th largest industrial employer with a work force of approximately 900 civilian employees [and 14 Navy Civil Engineer Corps officers]." [22, p.4] It was established as a Public Works Center in 1967 to provide water, power, telephone, heat and similar services to NAS Pensacola, Corry Station, Saufley Field, and the Naval Hospital. Through DMRD 967 the PWC's scope of control was expanded to Naval Station Mobile, Al. and Naval Station Pascagoula, Ms. Naval Station Mobile has since been closed. PWC Pensacola also provides various services to Navy facilities in Panama City and Jacksonville, Fl., and to other branches of the military at various locations including Eglin Air Force Base and the Marine Corps Logistics Base in Albany, Ga.

Today, PWC Pensacola provides the entire spectrum of public works services to approximately 130 shore based and sea commands located at the aforementioned facilities. Some of these services include:

- Facility Support Contracts - Custodial services/ grounds maintenance/ refuse collection/ elevator maintenance/ Job Order Contract/ etc.
- Housing - maintenance and assignment of over 1100 Navy Family Housing units
- Engineering - construction design/ Long Range Maintenance Planning/ heavy equipment weight certification/ etc.
- Maintenance - Emergency/ Service calls/ Recurring work/ Minor/ Specific work

- Utilities - water/ steam/ power/ telephones/ sewage/ etc.
- Transportation - leasing, maintenance and operation of approximately 1200 vehicles and pieces of heavy equipment.
- Material - supplies self help materials to commands desiring to accomplish facilities work themselves.
- Environmental - water/ waste water testing/ hazardous and industrial waste handling, storage and disposal/ soil testing and spill clean up.

The total revenue from the provision of these services in FY-1995 was $81.5 million. A breakdown of this revenue is displayed in Figure 6-1. [23, p.4]



Almost all of PWC Pensacola's functions are completed by in-house work forces. In 1995 the Facility Supports Contracts Department had $8.5 million in work completed, including; $4.0 million in service contracts, and $4.5 million in construction and Job Order Contracts (JOC). Therefore, approximately 90% of PWC Pensacola's FY-95 business was completed by in-house work forces. The PWC is currently developing Facility Support Construction Contracts for roofing, paving, interior finishes, and floor covering, areas they feel are more competitive for procurement on the outside. They are also developing a $24 million, multi-year JOC to supplement the work of their new construction commodity.

Overall, PWC Pensacola's customers responded very favorably to the services provided by the PWC. As displayed in Table 6-1, customer satisfaction with work in the maintenance area has been improving consistently for the past few years with all areas, except Timeliness-Submission to Job Start, being rated at a 4 or above.

Table 6-1 PWC Pensacola Six Year Survey Data
Comparison of Six Year Averages By Commodity

		1995	1994	1993	1992	1991	1990	1989
1	Facility Maintenance	4.11	3.72	3.52	3.68	4.01	4.19	4.1
A	E/S Work	4.59	4.13	4.12	4.41	4.5	4.61	4.39
B	Minor Work	4.33	3.9	3.85	3.88	4.06	4.29	4.17
C1	Specifics - P&E	4	3.27	3.1	3.43	3.75	3.92	3.94
C2	Specifics - Maintenance	4	3.96	3.7	4.02	4	4.25	4.22
C3	Timeliness - Submission To Job Start	3.64	3.3	2.73	2.6			
C4	Timeliness - Start of Job To Completion	4	3.75	3.29	3.5			
D	Recurring Work	4.18	3.7	3.87	4.1	4.07	4.19	3.87

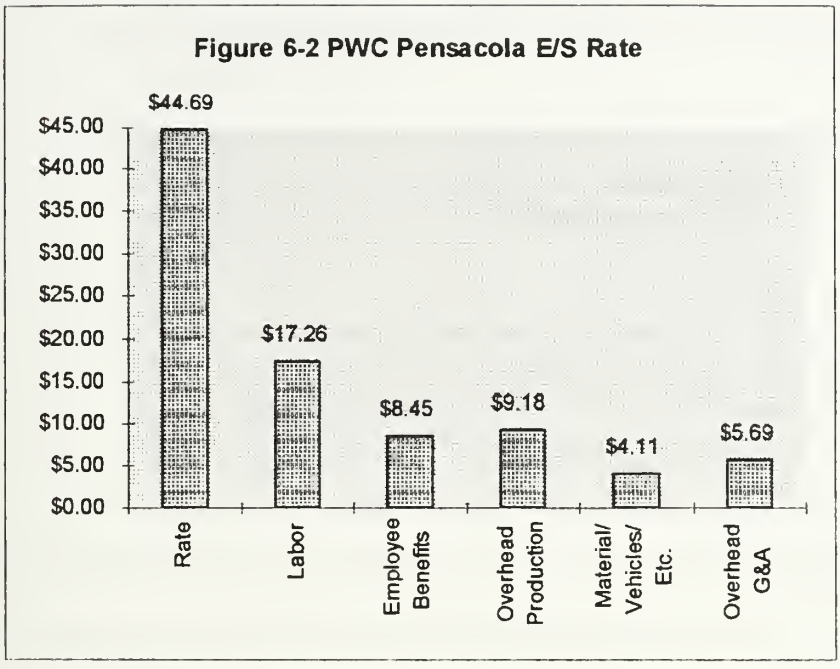
[24, p.11]

The scale for the ratings are 0 - 5, see Appendix 1, with 1 being poor and 5 being outstanding. Over the past several years PWC Pensacola has received responses on 85% or better on the number of surveys they have sent out.

6.2 Work Force Structure

Inside PWC Pensacola, the Maintenance Department was restructured in early 1995 to provide more timely and cost effective service. The workers were divided into two Customer Action Centers to provide Emergency/ Service/ Recurring (E/S/R) Center work and Minor/ Specific (Construction Center) work. Currently there are 12 overhead and 124 direct labor personnel performing E/S/R work and 46 overhead and 244 direct labor personnel performing Minor/ Specific work. These workers are projected to complete in excess of 600,000 man-hours of productive work in these areas in FY-96.

Work in the E/S/R Customer Action Center is completed by mechanics charging a rate of $44.69/hour, for FY-96. This rate is currently projected to remain constant through FY-99. [25, p.13] A breakdown of this rate is displayed in Figure 6-2 on the next page This rate demonstrates the PWC principle of a full costed service. All elements required for a company to do business are included in this rate.



[25, p.12]

The changes Pensacola incorporated into the E/S/R Customer Action Center were brought about to help change the perception that PWC's were a monopoly, inefficient, too costly and too slow. Following are some of the changes that were made to operate the E/S/R process more like a private business:

- The customers are presented with a bill on-site immediately upon completion of work. The customer may negotiate the charges on the bill and rate the level of service directly on the bill.
- The work is scheduled to the need of the customer.
- A 90 day warranty on labor and material is provided.
- Every worker was equipped with a radio, and one man per truck was sent to respond to the calls with an inventory selected by the mechanic to make him most efficient.

As a result of these changes several significant objectives were accomplished. These include:

- Workers became accountable for their time with customers validating hours charged on a bill.

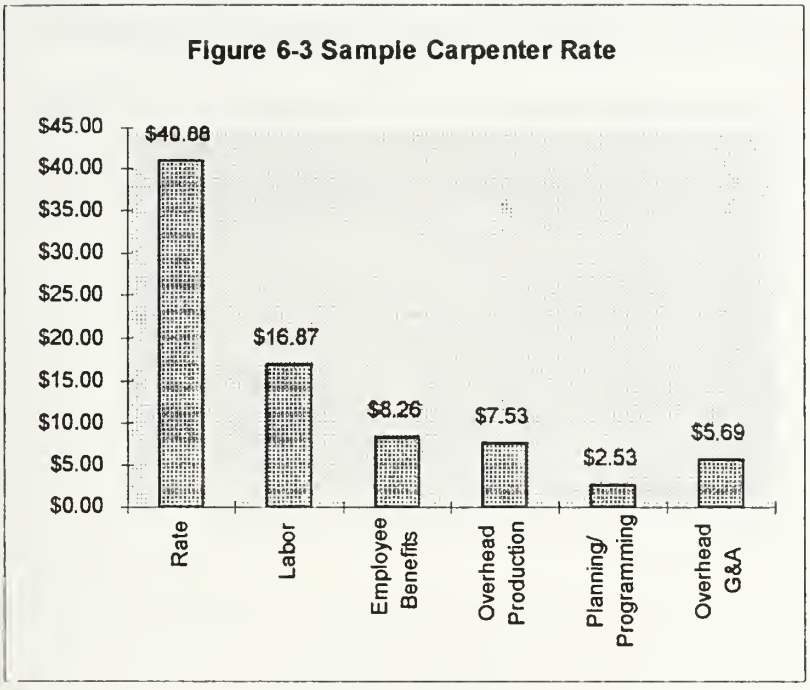
- Emergency/ Service calls were completed on the first trip 72% of the time in the first half of FY-96, as a result of empowering workers to carry the inventory they need, and requiring them to call the contact before they go to the job site.

- Our customer satisfaction ratings on the bill for FY-96 have averaged 4.95 on a scale of 5 (highest rating possible) in these categories: response, quality, courteous and helpful, labor hours reasonable, material charges reasonable.

[25, p.3]

These changes have also resulted in a increase in timeliness (Response) from 1.2 days in the first quarter of FY-96 to 0.5 days in the second quarter, for Emergency calls, and from 5.7 days to 5.3 days for Service calls. The response time for Emergency calls meets the new Naval Facilities Engineering Command's (NAVFAC) Guidelines for PWC Performance Targets of same day response and with 72% of the calls being completed on the first trip the completion time of same day is close to being met. Accomplishment of Service calls still needs to be improved to meet the new goal of response within 48 hours and completion within 72 hours. As a result of these changes the commodity overhead and direct labor positions were both reduced by 10 positions each to the current manning levels. This reduction in positions will result in a cost savings of $179,812 for FY-96 and a cost avoidance of $542,928 for FY-97.

Work in the construction commodity, Minor/ Specific work, is completed by mechanics that charge based on their trade. An example of a fully costed rate for a carpenter is provided in Figure 6-3 on the next page.



[25, p.2]

Minor and Specific work is multi-trade work that entails more labor hours than Service calls to complete. This work is planned, estimated and scheduled to provide the customer with the estimated cost and start date of the work, to allow for the early purchase of materials for the job and to assign labor resources for the project. The changes in this commodity have allowed Specific work to be commenced within 133 days of the job being funded and completed within 188 days of it being funded with an average work time of 66 days for FY-95. These numbers are significantly greater then the PWC Performance Targets of 90 days fund to start and 150 days fund to complete, however, they are much better than the FY-94 times of 177 days fund to start and 247 days fund to complete. The FY-95 days were for the system only being in place for approximately one half of the year. The FY-96 days for these benchmarks are expected to be better. Currently Minor work request to start is 22 days and the average

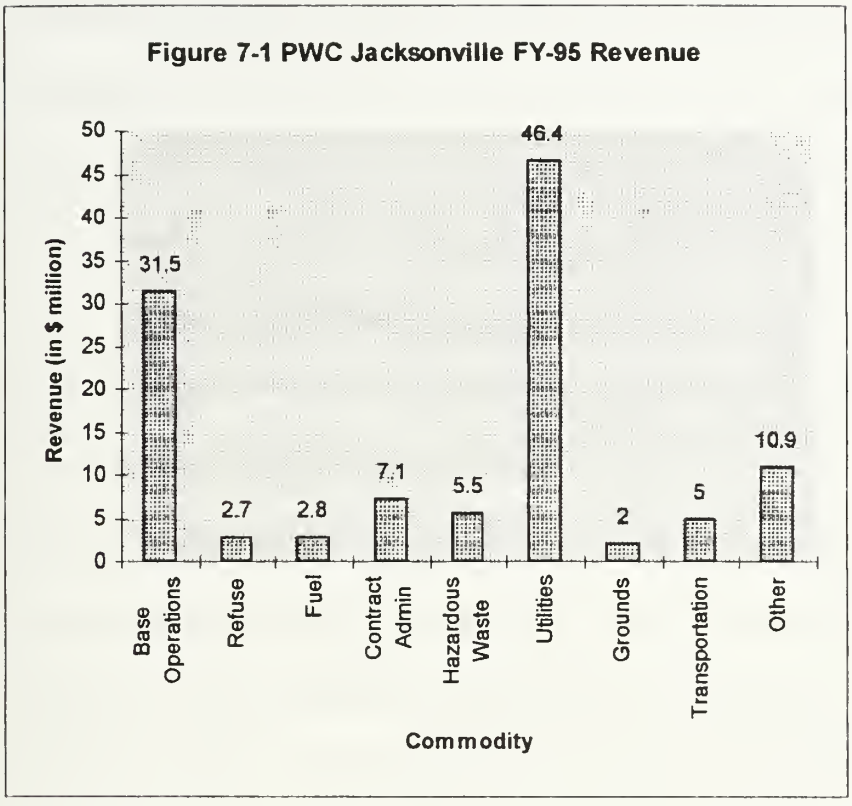
completion time is 56 days. These are also above the PWC Performance Target, but are getting better. The current PWC Performance Targets were published by NAVFAC on 29 MAY 1996 and are included as Appendix 2.

CHAPTER 7
OVERVIEW OF PUBLIC WORKS CENTER JACKSONVILLE

7.1 Scope of Operations

PWC Jacksonville is located onboard Naval Air Station (NAS) Jacksonville, Fl. and employs a work force of 226 civilian employees and 6 Navy Civil Engineer Corps officers. It was officially established as a Public Works Center in August of 1992, as a result of DMRD-967. Its area of operations includes all public works functions onboard NAS Jacksonville, NAS Cecil Field, and Naval Station Mayport, Fl.. It also provides support to the Naval Station in Guantanamo Bay, Cuba.

The functions provided by PWC Jacksonville are similar to those provided by PWC Pensacola in all respects except that all direct labor, with the exception of most base environmental work, is completed by contracted work forces. As a result of the Navy Commercial Activities Program, most Navy public works functions in the Jacksonville area were converted to contract in the 1987/88 time frame. The total revenue for services provided by PWC Jacksonville for FY-95 was $113.9 million and was distributed as shown in Figure 7-1 on the following page. These functions are provided by various multi-year contracts for; Facilities and Utilities Maintenance (FMU), Transportation Operations & Maintenance, Grounds Maintenance, Solid Waste Collection and Disposal, Guard Services, etc.



[26, p.9]

Customer survey results were not available for PWC Jacksonville's present Facilities and Utilities Maintenance contractor as they have only been performing the contract for about a year. However, the previous contractors options years were not exercised due to customer dissatisfaction with the work they were receiving.

7.2 Work Force Structure

PWC Jacksonville provides Emergency/ Service calls, Recurring, Minor and Specific work under its Facilities and Utilities Maintenance contract. This fixed price/ award fee contract provides services regionally to all three bases for $19.1 million dollars annually. Of this $19.1 million approximately $14.9 million is for maintenance type work. The award fee is to award the contractor for meeting objective goals

including response time. Under the contract the contractor proposed to provide 278 full time equivalent (FTE) positions worth of work, not including the indefinite quantity Specific work. This works out to approximately 160 FTE positions for maintenance type work with out Specific work or approximately 235 positions including the Specific work. The contractor maintains approximately 320 personnel to accomplish all work under the contract. The important thing to note is that if these 320 personnel cannot keep up with the work load the contractor can broker work out to subcontractors to keep up. The contractor's problem in this is that he will only be reimbursed for the rates he submitted when he bid the contract, whether this covers all the subcontractors costs or not. Of the contractor's approximately 49 overhead FTE's about 30 support the maintenance effort. The PWC also has approximately 30 overhead personnel monitoring the maintenance portion of the contract in their Facilities and Utilities Maintenance Division, Recurring Division and in the Zone offices.

The contract has been structured to provide Emergency/ Service calls, Recurring and Minor work on a fixed price basis and Specific work as an indefinite quantity line item. This means that the government has defined what would normally be required to complete a E/S call, Recurring or Minor work and the contractor submitted a fixed price bid to complete these types of work. The government submits a request for proposal to the contractor to negotiate the completion of the indefinite quantity Specific work.

E/S and Minor works have been defined in several categories that the customer can order. Table 7-1 on the next page provides a breakdown of these categories. It is readily apparent, after reviewing the rates for Category A-E Service Calls in Table 7-2,

that an "educated customer" could take advantage of the system by ordering certain categories of work and would receive more work than the rates would require them to pay. These rates are fixed price and the contractor is required to complete up to 32 labor hours and $2000 materials if required for a call. Any work above the contract averages may have a serious impact on the contractor's ability to complete the work and maintain his profit margin.

Table 7-1 PWC Jacksonville E/S and Minor Work Categories

	Response	Completion	Average Time and Materials	Maximum Time and Materials
Service Work Calls				
Category A	15 minutes	work until complete	4.8 hours/ $100 mat.	32 hours/ $2000 mat.
Category B	4 hours	within 48 hours	4.8 hours/ $100 mat.	32 hours/ $2000 mat.
Category C		within 5 work days	4.8 hours/ $100 mat.	32 hours/ $2000 mat.
Category D		within 20 work days	4.8 hours/ $100 mat.	32 hours/ $2000 mat.
Category E		Customer determined	4.8 hours/ $100 mat.	32 hours/ $2000 mat.
Minor 1 Work Call				
Category F		within 30 calendar days	$3000 Total Cost	$5000 Total Cost
Category G		rollover from S-call *	$3000 Total Cost	$5000 Total Cost
Minor 2 Work Call				
Category H		within 60 calendar days	$7500 Total Cost	$10,000 Total Cost
Category I		rollover from Minor 1 *	$7500 Total Cost	$10,000 Total Cost

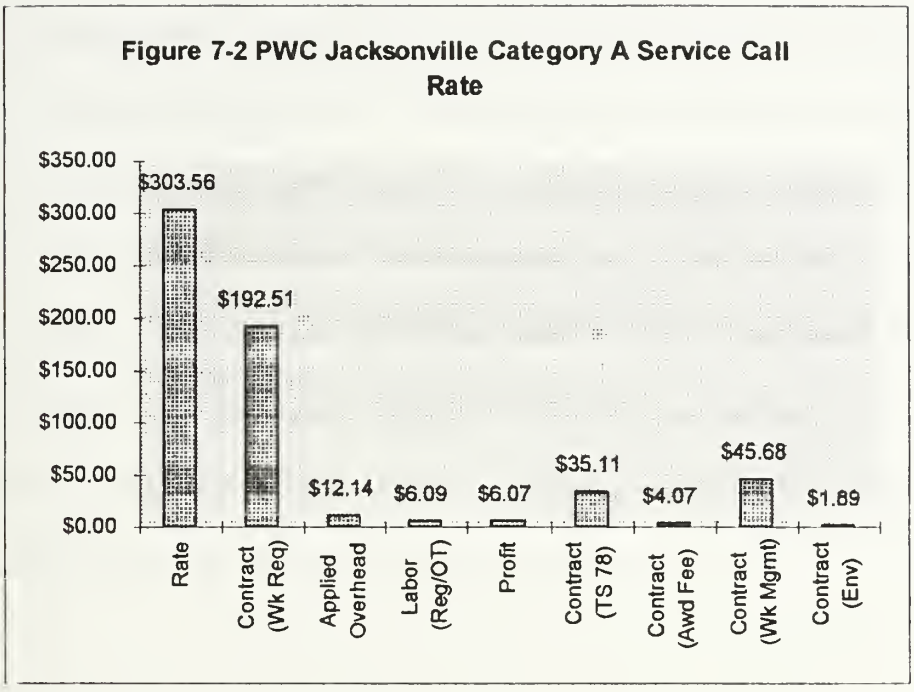
* Rollover completed as per original Service or Minor 1 completion time. [27, p.C5-2]

Table 7-2 PWC Jacksonville FY-96 Service Call Rates

Category	A	B	C	D	E
Cost	$303.56	$226.38	$180.08	$154.35	$221.24

[29, p.6]

Rates charged for Category A Service calls are given in Figure 7-2 which follows. It should be noted that the government estimated the contractor would bid approximately $192.51, the Contract (Wk Req) section of figure 7-2, for this type of work while the contractor actually bid $95.90.



In order to identify the requirements for Recurring work the PWC asked its customers what type of services they would be willing to buy. They then had the contractor give a fixed price for the work. The customers then fund the functions they want completed based upon the price of the service and what their equipment requires.

In order to complete Specific work the government must identify a scope of work and then give the contractor a Request for Proposal to complete the work. Once the contractor prepares their proposal the cost for the work is negotiated. There is no competition, other than the initial procurement, for this type of work as there are no in-house workers to complete the work.

PWC Jacksonville tracks the completion time for the different categories of work in order to determine the amount of the award fee the contractor is given. The contractor's performance is evaluated every 4 months on how well they meet their

completion time. In order to receive any award fee for a category they must meet the completion time percentage. These percentages are 98% on time for Category A and 95% on time for all other categories. During the last award review the contractor received 62% of the award. Therefore, there are a significant number of areas that the contractor is not completing work in a timely manner, as prescribed by the contract. Currently PWC Jacksonville's Service/ Minor work categories are not structured to easily meet the new NAVFAC PWC Performance Targets. (i.e. Categories C,D,E,G,H,I do not require the contractor to meet the targets.)

CHAPTER 8
COMPARISON OF IN-HOUSE TO CONTRACTED WORK FORCES

8.1 How to make a Direct Comparison

Due to the different structure both PWCs use to provide the same service a direct comparison of the two work forces becomes difficult. Probably the best place to start would be a macro-level comparison of the types of work that are delivered to their customers. A review of overall work load shows that PWC Pensacola's FY-95 revenue for in-house maintenance forces could be broken down as follows:

Emergency/ Service Work	$4,894,817
Recurring $5,703,834 - $4,000,000 (FSC Recurring)	$1,703,834
Minor	$7,037,727
Specific $17,396,460 - $4,500,000 (FSC Const. & JOC)	$12,896,460
Total	$26,532,838

PWC Jacksonville's contracted work forces costs (from the line item prices for the FMU contract, without PWC overhead included) would be as follows:

Emergency/ Service/ Minor	$6,241,361
Recurring	$1,737,122
Preventative Maintenance	$1,864,548
Specific	$5,000,000
Total	$14,843,031
PWC Overhead (assume 14.2%)*	$2,107,710
Total (w/ PWC OVHD)	$16,950,741

*14.2% is the amount charged by PWC Jacksonville for other contract administration. PWC overhead was added to the contract cost to make a comparable comparison with PWC Pensacola's burdened revenue. The 14.2% was applied as the estimated overhead across the entire contract. Taking the above totals and doing a comparison to the direct

labor work force and the direct labor plus overhead work force gave the results in Table 8-1.

Table 8-1 PWC Pensacola to Jacksonville Macro-Level Comparison

PWC Pensacola			PWC Jacksonville		
Type Work	Overhead	Direct	Type Work	Overhead	Direct (FTE)
Construction	46	244	E/S/ Minor		96.34
			Recurring		27.64
E/S/R	22	134	PM		36.41
			Specific *		75
			Contractor OVHD**	30	
			PWC OVHD***	30	
Total	68	378		60	235.39
Total/Direct =	26,532,838 / 378 = $70,193 per direct employee		Total/Direct =	16,950,741 / 235.39 = $72,011 per direct employee	
Total/Dir. + OVHD =	26,532,838 / 446 = $59,491 per Dir. + OVHD		Total/Dir. + OVHD =	16,950,741 / 295.39 = $58,372 per Dir. + OVHD	

*Approximate number required to accomplish work level
** 60% of the Admin. FTE's in the contract
*** Portions of FMU, Recurring and Zone personnel

These numbers would indicate that on a macro-level view of maintenance type work, in a comparison of total revenue to direct labor employee, that contracted work forces deliver approximately $1800 more work per employee in a work year. However, a comparison of total revenue to direct plus overhead personnel shows that in-house work forces deliver approximately $1100 more work per employee in a work year when the entire organization is considered. At the single employee level this seems like an insignificant difference, however in looking at PWC Pensacola's 446 direct/ overhead personnel this relates to an additional $490,600 of work generated by the work force or 2% of the total revenue. It should be noted that during FY-96 PWC Pensacola has reduced its E/S/R Customer Action Center by 10 direct and 10 overhead personnel.

Taking these new direct and overhead totals would make the total to direct ratio $72,100 and the total to direct plus overhead ratio of $62,234 using FY-95 revenue. Both of these ratios are much better than Jacksonville's ratios.

A closer review of Specific work completed at both locations is more difficult. Because the scope of work can vary so widely in Specific work it is hard to determine the benefits both sides enjoy. Specific work in Jacksonville is negotiated with the contractor on the indefinite quantity portion of the contract. The only competition they receive in completing this work is the initial competition when the contractor won the bid. On the other hand, Specific work in Pensacola is completed by in-house work forces where they compete with outside contractors for the larger jobs. A customer can also request a contract to complete their work if they feel Pensacola's cost is not competitive. PWC Pensacola is also developing additional Facility Support Construction contracts and a Job Order contract to supplement their in-house work forces. This seems to give PWC Pensacola a greater number of options and more competition in completing their work load. This flexibility should also help them improve their fund to start and fund to complete times. PWC Jacksonville's contractor negotiates the cost of work in this portion of the contract and therefore can cover higher subcontractor costs, however, the maximum level of work indicated in the contract may not be exceeded with out modifying the contract.

Comparison of Minor work in both locations is more straight forward. Minor works in Pensacola are estimated, approved and the work completed. The customer pays the prevailing labor rate times the number of hours labor and the total of materials for the job. Therefore, the work could potentially cost the customer from $1000 to

$10,000. In Jacksonville the contractor has provided fixed price rates for completing Minor works that are less then $5000, Minor 1, and $10,000, Minor 2, respectively. The contract costs of completing these two types of minor work are $2767 for Minor 1 and $6596 for Minor 2. Therefore, for the cost of a Minor 1 plus the PWC overhead, approximately $3500, a customer could receive $5000 worth of work. This would be a very good deal for the customer; however, the contractor could not afford to operate in this manner for very long before they requested for relief under the contract or just defaulted on the contract. The benefit received from a Minor 2 would be approximately the same if $10,000 worth of work was received. Therefore, because a customer in Jacksonville can get more work than they have to pay for Jacksonville appears to give a better deal for the completion of Minor work. However, current data indicates that the contractor is completing Minor work very close to their bid price for Minor 1's and below their bid price for Minor 2's. So the customers are not taking advantage of the low fixed prices.

Recurring work appears to be offered in much the same manner in both locations and from the limited information received on this area, a more detailed analysis could not be performed.

Emergency/ Service calls are the hardest items to compare because of the many categories available at PWC Jacksonville. A detailed comparison of these types of work in both locations will be presented in the following section, however, as Jacksonville's service call categories will cover up to 32 hours and $2000 in materials for the same price, depending on the service ordered, an "educated customer" could derive a large benefit for their dollar by ordering the work in Jacksonville. However, as

stated earlier, this would be a short lived bonus until the contractor requested relief through negotiation or the disputes process. Currently, PWC Jacksonville's customers are not taking advantage of the situation as evidenced by the average time of completion of Service calls is 5.1 hours and the average material cost is $72.54.

The last direct comparison would be the number of direct employees required to complete the projected workload. By comparing the projected revenue for maintenance work (Revenue Jacksonville/Revenue Pensacola) it shows that Jacksonville is completing approximately 64% the amount of maintenance work, dollar-wise, as Pensacola. 64% of Pensacola's current direct labor force, 368 personnel, is 235 personnel which is the same as the number of FTE's (plus the Specific work approximation) in Jacksonville's contract. So it does not appear that the contractor is doing more work with fewer employees.

8.2 Apples to Apples Comparison of Emergency and Service Work

As stated in the previous section a direct comparison of Emergency and Service work is difficult, but because Pensacola is working to meet the NAVFAC PWC Performance Targets, Jacksonville would have to modify their contract and change their categories of service to do this, the comparison will be made of Pensacola's average E/S call time and materials to Jacksonville's equivalent service of Category A and B Service calls. Review of the data provided by both PWC's gave the average time and materials for in-house and contracted work forces to accomplish E/S calls. These numbers were used to generate Table 8-2.

Table 8-2 PWC Pensacola and Jacksonville E/S Call Costs						
	Category A	Category B	Pensacola Actual*	Jacksonville Contract**	Contractor Cat. A#	Contractor Cat. B##
FY-96	$303.56	$226.38	$268.30	$314.51	$252.17	$237.02
FY-97 Tentative	$338.34	$254.59	$268.30	$314.51		
FY-98 Planned	$355.00	$270.00	$268.30	$314.51		
FY-99 Planned	$276.00	$291.00	$268.30	$314.51		
	[29, p.6]					

* Based on PWC Pensacola's actual average, 4.0 Emergency and 4.2 Service call hours and $59.37 materials. Labor rate is projected to remain the same through FY-99.

** Based on Pensacola's labor rate and the contract average of 4.8 hours and $100 materials.

Based on Pensacola's labor rate and the contractor's actual time 4.2 hours and materials $64.47.

Based on Pensacola's labor rate and the contractor's actual time 4.1 hours and materials $53.79.

This table displays the comparison between the cost of Category A and B service calls in Jacksonville to the average E/S call in Pensacola, and the average if Pensacola's burdened labor rate was used in completing the contract averages and the averages the contractor is experiencing after one year in the job. As shown in Table 8-2 PWC Jacksonville's rate for Category B service calls is a better value, however Pensacola's Emergency/ Service call average is much better than the cost of a Category A Service call, for FY-96. After FY-96, PWC Pensacola's cost becomes increasingly better. If Pensacola were completing Jacksonville's Category A and B work in the average time and cost the contractor is experiencing PWC Pensacola's cost would again be clearly better. (The hours are comparable, the cost of materials is slightly higher.) Furthermore, projecting improved efficiency by both the in-house and contracted work forces PWC Pensacola's customers would see a decrease in cost for Emergency and Service work as they improve their completion time and their labor rate remains

constant. PWC Jacksonville's customers will not see a decrease if the contractor improves their efficiency though, because even if they improve time and material cost this money will return to the contractor as profit because they have bid the work fixed price. There is also the danger that as a customer becomes more familiar with the system the overall labor and materials costs will increase because the customer realizes they can get more for their money. Either way PWC Jacksonville's Service call rate is projected to increase in the ensuing years while PWC Pensacola's labor rate is projected to remain constant.

8.3 What Would a Customer Receive for $1000

Based on the data above a PWC Pensacola customer could receive approximately 4 Emergency or Service calls for $1000, while that same $1000 would provide 3 Category A or 4 Category B service calls in Jacksonville. Conversely, an "educated customer" in Jacksonville could receive as much as 32 hours of labor and $2000 materials for that same $303.56, Category A, or $226.38, Category B call. In fact that becomes the danger of PWC Jacksonville' system. This ability to buy more work than a customer has to pay for goes against the principle under which PWC's were formed, that is to show the customer the true cost of doing business. By ordering service calls that take significantly longer to complete, with more material, than the contract average, PWC Jacksonville's customers could put the contractor out of business. When the contractor bid for the work, they bid approximately 3.7 hours of labor and approximately $45 material per call as an average for all categories of Service calls. After one year they are averaging 5.14 hours labor and $72.54 materials per call.

Therefore, the contractor has been losing money on these calls all year. To stay in business the contractor must try to recover some of their loses under the indefinite quantity portion of the contract, the only portion that is not fixed price. This results in the government possibly not receiving as competitive a price for its Specific work. In addition to these losses, PWC Jacksonville's customers have significantly under ordered the projected quantities of all categories of Service calls leading the government to consider a decrease in the line item quantities under the contract. This significant under ordering will certainly impact the contractor's recovery of overhead, and is also having a significant impact on the PWC's recovery of overhead that could affect future rates. (It must be remembered that PWCs operate on a break even basis, so that if they lose money one year they must raise their rates to recover for that loss.)

Overall, an "educated customer" could originally receive more for his $1000 in Jacksonville, but they would eventually strain the system and cause a reaction that would ultimately lose them that benefit. For the present year it appears that a PWC Pensacola customer will at least receive the equivalent value that a PWC Jacksonville customer receives and that over the next several years they will start to receive more and more for their money than a Jacksonville customer. If the E/S/R Customer Action Center is able to continue to lower its response times and costs through planned productivity increases the benefit they receive will be even greater. Even if Jacksonville's contractor is able to improve his costs their customer will pay the same or more as their projected rates increase.

CHAPTER 9
RESULTS, RECOMMENDATIONS AND CONCLUSIONS

9.1 Results

The results of the in-depth analysis of maintenance functions provided by Navy Public Works Centers Pensacola and Jacksonville were the following:

Work force - direct labor wise, the contractor is not doing more work with fewer employees. As a matter of fact when overhead personnel are considered in-house work forces are producing more dollars of revenue per employee than the contracted work force.

Specific work - in the completion of Specific work PWC Pensacola provides more options for work completion with greater competitiveness.

Minor work - in the completion of Minor work PWC Jacksonville's contracted work forces provide the better value if the amount of work received is greater than the contractor's fixed bid price and the attached PWC overhead. If the work requested is less than the fixed price bid and overhead then PWC Pensacola provides the better value because the customer is only charged for the actual amount of time and material. Currently, PWC Jacksonville's contractor average for completing Minor 1 work is above their fixed bid price while the average for Minor 2 work is below the fixed bid price. Therefore, on smaller Minor work projects PWC Jacksonville's customers are receiving greater value while on the larger projects PWC Pensacola's customers are receiving greater value.

Emergency/ Service work - currently the amount charged by PWC Pensacola and PWC Jacksonville for this category of work is comparable, in FY-96. However, for the next several years PWC Jacksonville's rates are projected to rise while PWC Pensacola's rates will remain constant. Therefore PWC Pensacola's customers will receive greater value for their money than Jacksonville's customers for the next several years.

Response times - response times for maintenance type work are being monitored closely at both PWCs and currently appear comparable. The driving force for improved response and completion times at PWC Pensacola is improved customer satisfaction and to meet NAVFAC's new PWC Performance Targets. PWC Jacksonville's push is for improved customer satisfaction also, however an even greater motivation for the contractor may be the award fee for meeting the percent of on-time completion for the different work categories. Currently, PWC Jacksonville's service categories are not structured to meet all of the new

PWC Performance Targets detailed in Appendix 2. Jacksonville's current contract would need to be rewritten and the categories of service redefined to meet these new Navy wide goals.

Customer satisfaction - PWC Pensacola's customers are highly satisfied with the maintenance type service they receive as evidenced by their annual survey results. PWC Jacksonville has not completed a survey since the award of the contract to their new contractor, however, the option years for the previous contractor were not exercised due to customer dissatisfaction with their performance.

9.2 Recommendations

The simple transfer of work from in-house to contracted work forces will not necessarily reduce the cost or enhance the quality of services. There are many ways to make both in-house and contracted work forces more cost effective and competitive. Some of these ways include:

- Customer education - inform the customer of the types of products that are available and which ones best meet their needs, time-wise and cost-wise. Ensure that they realize the possible consequences of ordering their services incorrectly. (i.e. higher cost, delivered too late)

- Specification development - have the customer identify the product they need. Develop a flexible specification that will allow for changes as the business environment changes, with out having to complete complicated modifications or reprocurements. Partner with the prospective contractors to ensure they know what is being asked for in the contract.

- Leave/ Lost/ Standby time - stamp out the unauthorized use of sick leave and work to remove as many impediments as possible for the workers to eliminate lost and standby time. These are costs that will ultimately effect the competitiveness of the organization.

- Competition - leave as much competition as possible in the process for the completion of work. Require in-house work forces to monitor their competitiveness continuously and require them to outsource any function if they are not the best value to the customer. Aggressively identify functions that are highly competitive on the outside market and justify why they are still being completed in-house.

Every way possible must be reviewed to ensure the customer is receiving the best quality for their dollar. Response, quality, cost and satisfaction must be the indicators that are tracked to ensure the customer is always provided with what they want, but more importantly with what they need and can afford.

9.3 Conclusions

Determining what type of work force to use to complete public works functions is a crucial decision for today's facility managers. "More and more companies [and cities] are finding that outsourcing provides a lower risk and a more cost-effective alternative to augmenting (hiring) in-house staff." [30, p.72] However, I believe that an organization should trim down first before looking into completely outsourcing its operations. Several small cities, including Clearwater Fl., Mustang, Ok. Hinesville, Ga., and Moore, Ok., have outsourced or privatized a portion or all of their public works with great success. However, Navy Public Works Centers were developed to provide cost-effective, competitive work to their customers. PWC Pensacola has shown that reorganization and right-sizing can deliver the required edge to be competitive and win in today's market conditions.

The development of a single contract to complete the myriad of tasks completed by a PWC on a day-to-day basis can be a daunting task, and mistakes in the contract specifications development can turn out to be quite costly later. The cost to buy out PWC Jacksonville's Facility and Utilities Maintenance contract after the first year is $1,145,625, and then the reprocurement of a new contract will be required. These costs will have to be passed along to the customer. PWCs should continue to ensure they are

providing a competitively priced product and that if they cannot provide it competitively with in-house employees they should look to outsource it. The comparison has shown that currently PWC Pensacola's in-house work forces are producing a product, maintenance work, that is competitively priced with PWC Jacksonville's contracted work forces. This competitive edge gets even greater for the next several years as Pensacola's rates are projected to remain constant and Jacksonville's to rise. Given this information, in-house work forces with the flexibility to augment their work with contracted personnel appear to be the best method to complete Navy Public Works Center's maintenance functions. Further review of the other functions provided by the PWCs would be required to see if this holds true for all the functions they provide.

APPENDICES

1994 PWC Pensacola Customer Survey Survey # _____

To the Respondent:

Please read each category carefully and indicate the response that most accurately describes how you feel about the commodity or service being provided. We are looking for candid answers and will appreciate any remarks and recommendations you may have. Your ratings and remarks will be used to plan future incremental improvements.

Please tell us your level of satisfaction with each commodity or service by placing an "X" at the position on the horizontal line that accurately reflects your rating.

If you do not use a particular commodity or service, please check "N/A" (Not Applicable) on the appropriate scale(s).

1. **Facility Maintenance Work:** This category includes all of the work that we do on your building, grounds, paved areas, and miscellaneous structures.

a. **Emergency/Service (E/S) Work:** Small emergency or routine jobs requiring 0 to 16 hours that are ordered by telephone.

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

b. **Minor Work:** Medium size jobs requiring 17 to 200 hours

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

c. Specific Work: Larger jobs requiring more than 200 hours; jobs with long-lead material items, engineering, or contract support.

1) Quality of Planning & Estimating effort in support of Specific Work.

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

2) Quality of Maintenance Department accomplishment of Specific Work.

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

3) Timeliness between submission of work request to start of job.

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

4) Timeliness from start of job on site to the completion of the job.

Poor Outstanding N/A ____

|--------|--------|--------|--------|
1 3 5

Please go to page 2.

d. Recurring Work: Day to day repetitive work like preventative maintenance of your mechanical systems.

Poor Outstanding N/A _____

1 3 5

REMARKS:

_____

_____

_____

_____

_____

2. Utilities Services: This category includes the major utilities services that we provide to your activity.

a. Electricity

1) Reliability

Poor Outstanding N/A _____

1 3 5

2) Cost

Poor Outstanding N/A _____

1 3 5

b. Steam

1) Reliability

Poor Outstanding N/A _____

1 3 5

2) Cost

Poor Outstanding N/A _____

1 3 5

c. Water

1) Reliability

Poor Outstanding N/A _____

1 3 5

2) Cost

Poor Outstanding N/A _____

1 3 5

d. Telephone

1) Reliability

Poor Outstanding N/A _____

1 3 5

Please go to page 3.

2) Cost

Poor Outstanding N/A _____

1 3 5

3) Responsiveness

Poor Outstanding N/A _____

1 3 5

REMARKS:

_____

_____

_____

_____

_____

3. **Transportation Services:** This category includes all of the transportation support that we provide to your activity.

a. **Operations Service**

1) Dispatching Equipment

Poor Outstanding N/A _____

1 3 5

2) Bus, Crane, Rigging and other services provided by PWC drivers and equipment operators.

Poor Outstanding N/A _____

1 3 5

b. **Maintenance Service:** Maintenance or repair work that the PWC performs on your vehicles or equipment.

1) Quality of maintenance service and reliability of equipment.

Poor Outstanding N/A _____

1 3 5

2) Customer Reception

Poor Outstanding N/A _____

1 3 5

4. **Engineering Service:** This category includes all of the major engineering services that we provide to your activity.

a. **Facility Planning Service:** Master planning, preparation of special projects and military construction projects, and other planning services provided by the PWC.

Poor Outstanding N/A _____

1 3 5

Please go to page 4.

b. **Maintenance Planning Service:** Development of maintenance plans for your activity.

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

c. **Facility Inspection Service:** Inspection services performed to prepare the Annual Inspection Summary (AIS) and preparation of the AIS for submission to your major claimant.

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

d. Design Services.

(1) Quality of design work.

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

(2) Responsiveness from funding to design start.

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

REMARKS:

_____
_____
_____
_____
_____

5. **Contract Work:** This category includes all of your work that we arrange to have done by contractor.

a. **Facility Support Contract Work:** Contract for the day to day work that would be recurring work if accomplished by PWC personnel, such as Janitorial, Refuse and construction less than $25K.

(1) Timely delivery of facility support contract work:

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

(2) Delivery of facility support contract work within budget:

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

(3) Quality of facility support contract work:

Poor Outstanding N/A _____
|--------|--------|--------|--------|
1 3 5

Please go to page 5.

b. **Construction Contract Work:** Contracts for one time maintenance, repair, alteration and construction work over $25K.

(1) Timely delivery of construction contract work:

Poor Outstanding N/A _____
1 3 5

(2) Delivery of construction contract work within budget:

Poor Outstanding N/A _____
1 3 5

(3) Quality of construction contract work:

Poor Outstanding N/A _____
1 3 5

c. **Contract Management:** Contract acquisition process, project management, inspection, administrative support, and status information provided.

Poor Outstanding N/A _____
1 3 5

d. **Warranty Services:** Acceptability of PWC management of warranty issues.

Poor Outstanding N/A _____
1 3 5

REMARKS:

_____
_____
_____
_____
_____

6. **Military Family Housing:** This category includes the administration and management of family housing programs for military members of your command.

a. Housing Referral Services

Poor Outstanding N/A _____
1 3 5

b. Assignment and Termination Services

Poor Outstanding N/A _____
1 3 5

c. **Maintenance and repair:** Reception and accomplishment of emergency/service work and recurring maintenance.

Poor Outstanding N/A _____
1 3 5

Please go to page 6.

d. Self Help Store

Poor Outstanding N/A _____

1 3 5

REMARKS:

7. Financial Services: This category includes the quality of PWC fiscal accounting services.

Poor Outstanding N/A _____

1 3 5

REMARKS:

8. Communication: This category includes everything that is being done to assure effective two way communications between the PWC and your activity.

a. Command Level: Communication between you or your Executive Officer and the PWC Commanding Officer or his Executive Officer.

Poor Outstanding N/A _____

1 3 5

b. Job Status Feedback: Routine job status information that you receive.

Poor Outstanding N/A _____

1 3 5

c. Problem Response: Level of response that the PWC provides to specific problems that you identify.

Poor Outstanding N/A _____

1 3 5

d. Employee Response: Courtesy, attitude, and helpfulness of PWC personnel in performing their services.

Poor Outstanding N/A _____

1 3 5

REMARKS:

Please go to page 7.

9. **Environmental Services**: Support we provide to help you comply with environmental programs.

a. **Hazardous Waste**: Pick-up, transport, and preparation of hazardous wastes prior to disposal by DRMO, including record keeping and reporting.

Poor Outstanding N/A _____

1 3 5

b. **Environmental Engineering Services**: Consultation, technical studies, audits, and permits provided to keep you in full compliance with environmental regulations (other than hazardous waste).

Poor Outstanding N/A _____

1 3 5

REMARKS:

_____

_____

_____

_____

_____

10. **Customer Information**: Please give us some information about you.

a. Respondent's Name _____

b. Respondent's Organization/Activity _____

c. Respondent's Position _____

d. Date _____/_____/_____

THANK YOU!

Copy to: 00 Area 09, 10, 49, 100

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PUBLIC WORKS FIELD SUPPORT DIVISION
8530 LA MESA BOULEVARD
LA MESA, CALIFORNIA 91941-3967

29 May 1996

From: Director, Public Works Field Support Division
To: Distribution

Subj: PWC PERFORMANCE TARGETS

Ref: (a) NAVFAC Improvement Plan
(b) PWFSD ltr of 1 Apr 96
(c) PWFSD ltr of 4 Apr 96

Encl: (1) Summary of Public Works Center's Responses to PWFSD ltrs of 1 & 4 Apr
(2) Revised Performance Targets

1. Reference (a) challenged the PWC Corporation to demonstrate our ability to perform reliably and consistently and to dramatically improve our responsiveness. References (b) and (c) requested the PWCs to provide feedback and comments on proposed definitions of the target areas and criteria for calculating response and turnaround time, and the goals to be achieved.

2. Your responses have been reviewed and are summarized in enclosure (1). All comments were considered and many have been incorporated into the revised definitions and new criteria (enclosure (2)) for measuring response and turnaround time.

3. New definitions for Emergency/Service Work, Minors, and Specifics are:

a. **Emergency Work** is maintenance or repair work which requires a minimal amount of planning or processing and can be accomplished in a short time. Emergency work requires immediate action to accomplish any or all of the following purposes:

1. Prevent loss or damage to government property

2. Restore essential services that have been disrupted by breakdown of utilities

3. Eliminate hazards to personnel or equipment

b. **Service Work** is maintenance or repair work which requires a minimal amount of planning or processing and can be accomplished in a short time, but is not of an emergency nature.

c. **Minor Work** is larger than Emergency/Service Work and smaller than Specific Work and does not exceed $25,000.

d. **Specific Work** is defined as jobs costing in excess of $25,000.

4. Dates for implementation of the Performance Targets are as follows:

a. Begin measuring performance targets for E/S, Minors and Specifics by 1 July 1996.

b. First quarterly report (4th Quarter 1996) due to NAVFAC Code 13 by 31 October 1996.

c. Thereafter, quarterly reports will be due by the end of the month following the end of the quarter under consideration.

5. For any questions you may have, our point of contact on this initiative is Mary Silbernagel, DSN 526-3275 or Commercial (619) 556-3275.

ROY M. MAC GREGOR

Distribution:
PWC Great Lakes
PWC Guam
PWC Jacksonville
PWC Norfolk
PWC Pearl Harbor
PWC Pensacola
PWC San Diego
PWC San Francisco
PWC Washington
PWC Yokosuka
Code 13
Code 134

PERFORMANCE TARGETS

TYPE WORK	MEASUREMENT	HOW CALCULATED	GOAL
Emergency Calls	Response (Receipt to job site)	Quarterly average of hours for completed jobs measured from time of receipt of call until mechanic arrives at the job site	Same Day (less than 24 hrs)
	Turnaround Time (Receipt to job completion)	Quarterly average of hours for completed jobs from time of receipt of call until work is completed	Same Day (less than 24 hrs)
Service	Response (Receipt to job site)	Quarterly average of hours for completed jobs measured from time of receipt of call until mechanic arrives at the job site	Next Day (less than 48 hrs)
	Turnaround Time (Receipt to job completion)	Quarterly average of hours for completed jobs measured from time of receipt of call until work is completed	Following Day (less than 72 hrs)
Minors	Response (Receipt to start of work)	Quarterly average of days for completed jobs measured from day the request is received until work is started	7 Days
	Turnaround Time (Receipt to job completion)	Quarterly average of days for completed jobs measured from day the request is received until work is completed	30 Days
Specifics	Response (Receipt to start of work)	Quarterly average of days for completed jobs measured from day the request is received, and funds are on hand until work is started	90 Days
	Turnaround Time (Receipt to job completion)	Quarterly average of days for completed jobs measured from day the request is received, and funds are on hand until work is completed	150 Days

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